

SUB
E17

2. (Amended) The method of claim 10 wherein there is no O₂ flowed into the chamber during the mixing and deposition.

DI

3. (Amended) The method of claim 10 wherein the evaporating the aluminum oxide comprises thermal evaporation of the aluminum oxide from the single crystal sapphire.

5. (Amended) The method of claim 10 wherein the evaporating the aluminum oxide comprises ion beam evaporation of the aluminum oxide from the single crystal sapphire.

E

6. (Amended) The method of claim 10 wherein the evaporating the aluminum oxide comprises electron gun evaporation of the aluminum oxide from the single crystal sapphire.

8. The method of claim 10 wherein the substrate comprises silicon.

9. The method of claim 10 wherein the substrate comprises monocrystalline silicon.

10. (Amended) A method of forming an assembly comprising silicon-doped aluminum oxide, comprising:

evaporating aluminum oxide from a single crystal sapphire;

evaporating silicon monoxide from a source of silicon monoxide;

mixing the evaporated aluminum oxide and silicon monoxide in a reaction chamber to form a mixture;

depositing at least some of the mixture of evaporated aluminum oxide and silicon monoxide on a semiconductive material substrate to form the silicon-doped aluminum oxide on the substrate; and

forming a conductive material on the deposited silicon-doped aluminum oxide, the conductive material being separated from the semiconductive material of the substrate by the silicon-doped aluminum oxide.

31. The method of claim 10 wherein the silicon-doped aluminum oxide contains from 0.1 percent to about 30 weight percent of silicon dopant, by weight.

32. The method of claim 10 wherein the semiconductive material substrate is room temperature during the depositing.